In the Claims

1. (original) An IR microscope comprising a sample stage, optical components for guiding analyzing radiation so that it is incident on a sample to be analyzed which is carried on said stage, and for guiding radiation from the sample to a detector,

wherein said detector comprises a small array of individual detector elements, the outputs of the detector elements being fed in parallel to processing means for processing the detector element outputs.

2. (original) A microscope according to claim 1, wherein each detector element has its own associated detector circuitry.

3. (previously amended) A microscope according to claim 1, wherein the detector elements are arranged in a linear array.

4. (original) A microscope according to claim 3, wherein the detecting elements of the linear array are spaced apart.

5. (previously amended) A microscope according to claim 1, wherein the detector elements are arranged in a plurality of rows.

6. (original) A microscope according to claim 5, wherein the detector elements in each row are spaced apart and said rows are spaced apart.

7. (previously amended) A microscope according to claim 5, wherein the detector elements in each row are offset relative to those in a next adjacent row.

8. (previously amended) A microscope according to claim 1, wherein the center of each element is located at a position corresponding to a point on a regular grid.

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9. (original) A microscope according to claim 8, wherein the grid pattern is square or rectangular.

10. (previously amended) A microscope according to claim 8, wherein the spacing between the centers of elements in each row corresponds to a multiple of the spacing of the points on the grid.

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11. (previously amended) A microscope according to claim 1, wherein the offset in detector element position in adjacent rows corresponds to the spacing of the grid or a multiple of that spacing.

12. (previously amended) A microscope according to claim 8, wherein the dimensions of each detector element are substantially equal to the spacing of the points on the grid.

13. (previously amended) A microscope according to claim 1, including, in addition to said detector array, a single detector element, said processing means being arranged to process output signals received from either said array or said single detector element.

14. (original) A detector array for use in a IR microscope, said detector array comprising a plurality of individual detector elements, each corresponding to a pixel, which are disposed in spaced relationship, the centre to centre spacing of adjacent elements being substantially equal to or a multiple of the pixel pitch.

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15. (original) A detector according to claim 14, wherein the detector elements are arranged in a linear array.

16. (currently amended) A detector according to claim ~~14~~ 15, wherein the detector elements of the linear array are spaced apart.

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17. (previously amended) A detector array according to claim 14, wherein the detector elements are arranged in a plurality of rows.

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18. (original) A detector array according to claim 17, wherein the detector elements in each row are spaced apart, and the rows are spaced apart.

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19. (previously amended) A detector array according to claim 18, wherein the detector elements in each row are offset relative to those in a next adjacent row.

20. (previously amended) A detector array according to claim 14, wherein the detector elements are arranged such that the center of each element is located at a position corresponding to a point on a regular grid.

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21. (original) A detector array according to claim 20, wherein the grid pattern is square or rectangular.

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22. (previously amended) A detector array according to claim 20, wherein the spacing between the centers of the elements in each row corresponds to a multiple of the spacing of the points of the grid.

23. (previously amended) A detector array according to claim 19, wherein the offset in detector element position in adjacent rows corresponds to the spacing of the grid or a multiple of that spacing.

24. (previously amended) A detector array according to claim 20, wherein the dimensions of each detector element are substantially equal to the spacing of the points of the grid.

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25. (original) A detector assembly for an infrared microscope comprising a small array of individual detector elements the outputs of which can be fed in parallel to a processing means, in combination with a single detector element.

26. (original) A detector array according to claim 25, where the detector elements are located in a Dewar type vessel.

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27. (currently amended) A detector assembly according to claim 25, wherein said array comprises [an array according to claim 14] a plurality of individual detector elements, each corresponding to a pixel, which are disposed in spaced relationship, the centre to centre spacing of adjacent elements being substantially equal to or a multiple of the pixel pitch.

28. (previously amended) A microscope according to claim 1 including an assembly which can be moved into or out of the beam of radiation in order to change the magnification provided by the optical elements of the microscope.

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29. (original) A microscope according to claim 28, wherein said magnifying assembly is located between the objective mirror of the microscope and its intermediate focus.

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30. (previously amended) A microscope according to claim 28, wherein the magnifying assembly includes a reflecting element which in its operative position reflects the beam of radiation away from its normal direction of propagation and a magnifying component or components which can receive the reflected radiation.

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31. (original) A microscope according to claim 30, wherein the magnifying assembly includes first and second magnifying components, the first of which receives radiation from the reflecting element and the second of which receives the radiation from the first

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magnifying component, and a second reflecting element for directing radiation from the second magnifying component along its normal direction of propagation.

32. (original) A microscope according to claim 31, wherein the first and second magnifying components comprise spherical mirrors.

33. (previously amended) A microscope according to claim 31, wherein the first and second reflecting elements are plane mirrors.

34. (previously amended) A microscope according to claim 28, wherein the magnifying assembly is movable between an operative and an inoperative condition by rotation about an axis.

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35. (previously amended) A microscope according to claim 30, wherein the assembly is movable between an operative position in which the reflecting element is located in the beam of radiation and an inoperative position in which the radiation can propagate to the detector elements without magnification by the magnifying assembly by rotation about an axis through the first and second components.

36. (previously amended) A microscope according to claim 34, wherein the angle of rotation though which the assembly can be rotated is of the order of 90°.

37. (previously amended) A microscope according to claim 28 including a shield for shielding the detector from unwanted radiation, said shield being switchable between an operative and an inoperative position.

38. (previously amended) A microscope according to claim 37 when dependent upon claim 31, wherein the shield comprises an element disposed along the propagation path of radiation reflected from the first magnifying component to the second magnifying

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component, said element having therein an aperture and acting as a cold shield to prevent unrequired radiation arriving at the detector.

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39. (original) A microscope according to claim 38, wherein said element comprises a plane mirror which allows through the aperture a beam of rays to be detected but blocks rays outside that beam.

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40. (new) An IR microscope comprising a sample stage, optical components for guiding analyzing radiation so that it is incident on a sample to be analyzed which is carried on said stage, and for guiding radiation from the sample to a detector,

wherein said detector comprises a small array of individual detector elements, the outputs of the detector elements being fed in parallel to processing means for processing the detector element outputs.